

The Naudé species of South African Cicadellidae (Hemiptera). IV. Species assigned to the genera *Aconura* Lethierry and *Deltocephalus* Burmeister

by

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Aconura sagittaria and *A. compta* are transferred to the genera *Stirellus* Osborn & Ball and *Aconurella* Ribaut respectively. *Deltocephalus bivittatus* is provisionally assigned to the genus *Ebarrius* Ribaut. *D. granarius* is transferred to *Cerus* gen. nov., *D. eductus* and *D. exquadratus* to *Pravistylus* gen. nov., *D. cogani* to *Cedarolettix* gen. nov., *D. pumilicans* to *Vilargus* gen. nov., *D. attenuatus* to *Vecaulis* gen. nov., *D. chlorellus* to *Megaulon* gen. nov., *D. saltus* to *Elginus* gen. nov. and *D. cepheus* to *Proekes* gen. nov. *Aconura ceresensis* is conspecific with the latter species. *A. acuminata*, *D. campanus*, *D. atrodentatus* and *D. africanus* are not redescribed on account of insufficiency or lack of material.

The species described by Naudé (1926) as *Aconura acuminata*, *Deltocephalus campanus* and *D. atrodentatus* are only represented by females and they are not redescribed, as no males can as yet definitely be associated with them – likewise also *D. africanus*, of which no specimens have remained in the collection.

Stirellus sagittarius (Naudé,) **comb. nov.**, figs 11–17

Aconura sagittaria Naudé, 1926: 54

FEMALE. Brachypterous; length from apex of crown to tips of tegmina 3.08–3.8 mm, to apex of ovipositor 4.2–5.1 mm. Ground colour stramineous. Width of head across eyes 0.92–1 mm. Crown flat, fairly sharply angled anteriorly (fig. 11) and 1.5–1.7 times as long as broad between eyes; 1.7–1.8 times as long medially as next eyes. Discal and frontal regions of crown granular; discal region with two small dark-coloured indentations on each side of rather indistinct coronal suture. Frontoclypeus with fine nodular sculpture and about 5 horizontal arcs. Face slightly convex in profile.

Pronotum as wide as head, anteriorly with row of small dark indentations. Spinulation of fore tibiae 1 + 3; hind femoral setal formula 2 + 2 + 1. Appendix of tegmen very small. Hind margin of 7th abdominal sternite as in fig. 12; ovipositor long.

MATERIAL EXAMINED. Naudé described this species from 1♂ and 2♀♀, but at present the only type-specimens present in his collection is the ♀ holotype (collected at Bloemfontein, 14.iv.1918, by J. C. Faure). Another ♀ and 2 ♂♂, with the same collectors data as the holotype, are also present in the collection and the genitalia of one of the latter are figured here. Several other specimens from Namakunde and Mafa in South

West Africa, as well as the Cathedral Peak area (on *Themeda* grass), were also available for study.

MALE. Slightly brachypterous; length from apex of crown to tips of tegmina 2.8–3.28 mm, to tip of abdomen 3–3.38 mm. Width of head across eyes 0.88–0.92 mm. Crown about 1.5 times as long as broad between eyes and 1.3 times as long medially as next eyes.

10th tergite well sclerotized and pygofer deeply excised middorsally. Pygofer lobes with numerous spicules and dorsally with row of 5 or 6 short macrosetae (fig. 15); membranous fold indistinct. Macrosetae of plates uniseriate (fig. 17). Valve sharply triangular. Shaft of aedeagus long, thin, tubular, arising from ventral part of socle and bent sharply anteriorly (fig. 13). Stem of connective forked (fig. 14), arms of fork articulating with aedeagus on each side of inner genital aperture. Styles as in fig. 16.

In some of the specimens of this species the crown is more acutely angled in front than in others; darkly pigmented spots are also present on the crown and tegmina of some specimens. Following the generic nomenclature of Mahmood, Sultana & Waheed (1972), *sagittaria* is here assigned to the genus *Stirellus* Osborn & Ball.

Aconurella compta (Naudé), **comb. nov.**, figs 18–25

Aconura compta Naudé, 1926: 56

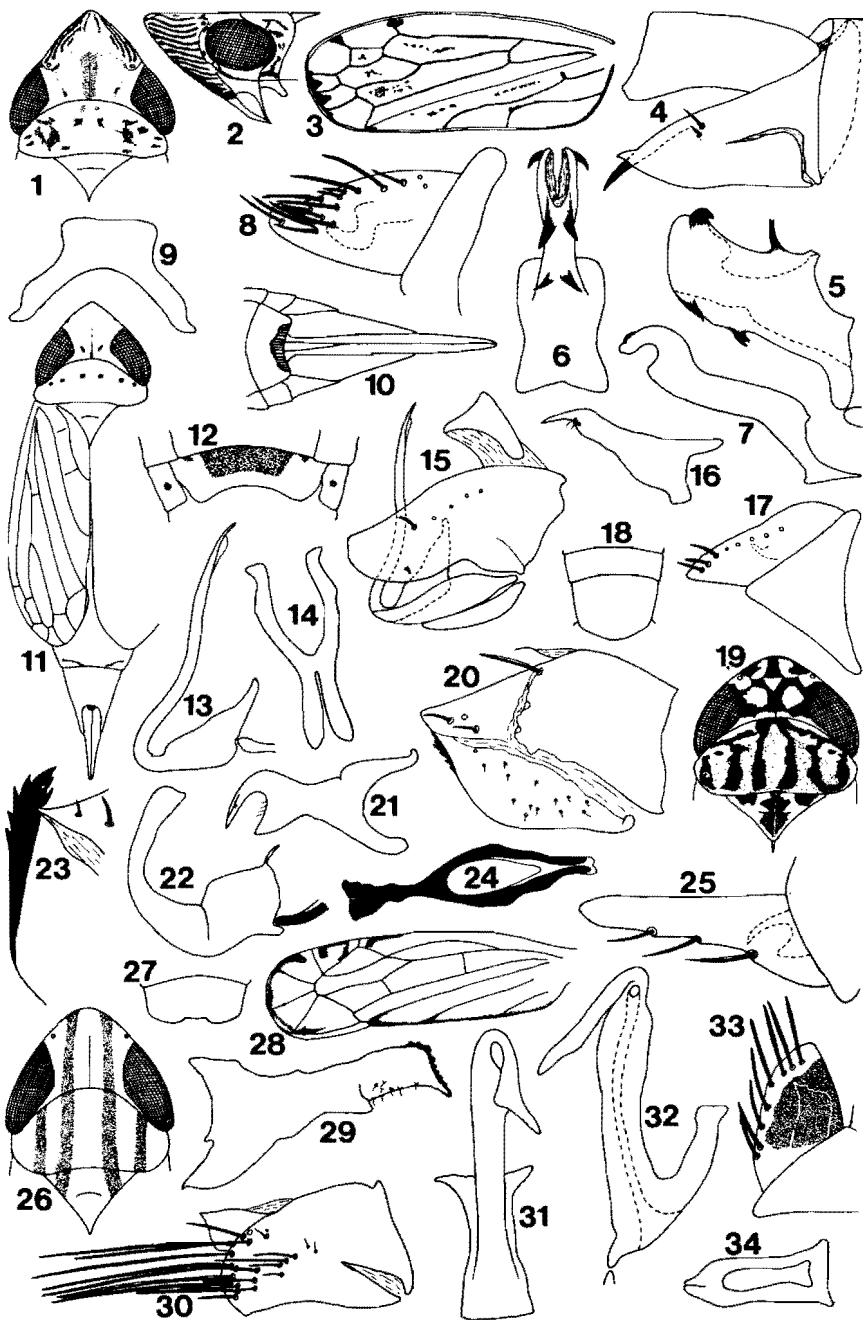
MALE. Length from apex of crown to tips of tegmina 2.54–2.92 mm. Ground colour yellowish. Head slightly wider than pronotum, width across eyes 0.7–0.76 mm. Structure of head very similar to that of *Aconurella aethiopica* (Cogan) (comb. nov., *vide* Theron 1970), but usually with large, very variable fuscous areas on crown (fig. 19); frontoclypeus usually fairly uniformly dark and horizontal arcs therefore rarely visible.

Pronotum slightly narrower than head, maximum width 0.64–0.74 mm, and usually with variable dark bands. Remainder of thorax usually dark. Elytra hyaline with very prominent fuscous veins.

Pygofer lobes fairly sharply pointed behind and traversed by weakly sclerotized bands, as shown in fig. 20; dorsolaterally with row of 2–4 macrosetae, as well as few smaller setae. Pygofer process as in fig. 23. Aedeagus markedly curving anteriorly (fig. 22). Styles and connective as in figs 21 & 24. Plates elongate, bearing 3–6 macrosetae (fig. 25).

FEMALE. Length 3.08–3.36 mm; width of head across eyes 0.8–0.9 mm;

Figs 1–34. South African Cicadellidae. 1–10. *Proeakes cephalus* (Naudé). 1–9, ♂. 1 & 2. Head and thorax, dorsal and lateral views. 3. Tegmen. 4. Pygofer, lateral view. 5 & 6. Aedeagus, lateral and ventral views. 7. Left style, ventral view. 8. Right plate and part of valve, ventral view. 9. Connective. 10. ♀, pygofer, ventral view (setae not drawn). 11–17. *Stirellus sagittaria* (Naudé). 11–12. Holotype ♀. 11. Dorsal view. 12. 7th abdominal sternite. 13–17. Male genitalia. 13. Aedeagus, lateral view. 14. Connective. 15. Pygofer, lateral view. 16. Left style, ventral view. 17. Right plate and valve, ventral view. 18–25. *Aconurella compta* (Naudé). 18. 7th abdominal sternite of ♀. 19–24. Allotype ♂. 19. Head and thorax, dorsal view. 20. Pygofer, lateral view. 21. Left style, ventral view. 22. Aedeagus, lateral view. 23. Pygofer process, posterior view. 24. Connective. 25. Left plate of ♂, ventral view. 26–34. *Ebarrius bivittatus* (Naudé). 26–28. Holotype ♀. 26. Head and thorax, dorsal view. 27. Hind margin of 7th abdominal sternite. 28. Tegmen. 29–34. Male genitalia. 29. Right style, ventral view. 30. Pygofer, lateral view. 31 & 32. Aedeagus, ventral and lateral views. 33. Left plate and part of valve. 34. Connective.



maximum width of pronotum 0,78–0,84 mm. 7th abdominal sternite more than twice as long as 6th and rounded behind (fig. 18).

MATERIAL EXAMINED. Naudé states that he described this species from 1 ♂ and 3 ♀♀ (all collected by J. C. Faure, Petrusburg, O.F.S., 22–25.iv.1918) and this material, consisting of a ♀ holotype, a ♂ allotype (plates damaged) and 2 ♀♀ paratypes, is still present in the collection. Many additional specimens from Pretoria, Wolmaranstad, Kimberley, Tzaneen, Beaufort West, Kalahari Gemsbok Park (collected on *Geigeria*) and Gobabis (S.W.A.) were also studied. The colour patterns show much variation and some specimens are much lighter in colour than others.

Ebarrius bivittatus (Naudé), **comb. nov.**, figs 26–34

Deltocephalus bivittatus Naudé, 1926: 44

FEMALE. Length from apex of crown to tips of tegmina 2,92–3,2 mm. Ground colour cream, but crown, pronotum and scutellum traversed by two longitudinal orange bands; pronotum with additional lateral bands (fig. 26). Head wider than pronotum, width across eyes 0,78–0,88 mm. Crown as long as pronotum and anteriorly rounded to face; discal region smooth, shiny; frontal region and face granular. Coronal suture long. Ocellus separated from eye by distance about equal to its diameter. Frontoclypeus rather narrow, with anteclypeus narrowing distally. Lora small and width of gena below lorum about equal to width of ocellocular region. Gena deeply notched below eye.

Lateral margins of pronotum very short, non-carinate, maximum width 0,74–0,8 mm. Tegmina brownish, with small dark brown marginal areas (fig. 28); hind margin coincident with tip of abdomen; 3 closed ante-apical cells, outer one triangular; 4 apical cells; appendix very narrow. Spinulation of fore tibiae 1 + 4, hind femoral setal formula 2 + 2 + 1. Pygofer with many setae, especially behind. 7th abdominal sternite notched behind (fig. 27).

MATERIAL EXAMINED. The single female on which Naudé based this species, is still present in the collection (collected by E. S. Cogan on grass, Cedara, Natal, 22.ii.1917). Many additional males and females, collected at Mbabane (Swaziland), Tzaneen, East London, Stellenbosch and Table Mountain (Cape Town), were however also available for study. The genitalia of a male collected at Ararati, Mbabane, Swaziland (J. G. Theron, vii.1970) are figured here.

MALE. Length 2,56–2,84 mm; width of head across eyes 0,66–0,78 mm; maximum width of pronotum 0,6–0,7 mm. Hind margin of pygofer lobes dorsally rounded and ventrally with short medial extension (fig. 30). Each pygofer lobe bearing about 8 very long macrosetae, as well as number of shorter setae. Plates typically dark coloured (except outer edges), bluntly rounded behind, completely separated from one another and bearing 7 or 8 macrosetae each (fig. 33). Valve triangular. Shaft of aedeagus arising from lower part of socle, tubular and bearing an asymmetrical appendage (curving to right side) at its apex, where the gonopore is also situated (figs 31, 32). Connective with very short stem and fused basal arms (fig. 34). Style with distinct preapical angle; apophysis broad, heavily sclerotized and denticulate behind, with lateral tooth (fig. 29).

E. bivittatus is not a member of the tribe Deltocephalini and is here provision-

ally placed in the Palaearctic genus *Ebarrius* Ribaut of the Jassargini (its aedeagus differs considerably from that of the other two known species of this genus). It has a wide distribution in southern Africa.

CERUS gen. nov.

Type-species: *Deltocephalus granarius* Naudé

The genitalia of the male indicate that this species cannot be included in the genus *Deltocephalus* and a new genus, *Cerus*, of the tribe Euscelini, is proposed here.

Head wider than pronotum (fig. 35); crown anteriorly produced, with apex sharply angled but rounded to face. Discal region of crown smooth, frontal region with fine nodular sculpture. Coronal suture distinct. Ocellus separated from adjacent eye by distance about 6 times its diameter. Anteclypeus broadening apically. Gena distinctly notched below eye. Ocellular region much wider than gena below lorum. Antennae long.

Lateral margins of pronotum short. Tegmina with 2 closed anteapical cells and no appendix (fig. 36). Spinulation of fore tibiae 1 + 4 and hind femoral setal formula 2 + 2 + 1.

Pygofer deeply invaded middorsally by articular membrane of anal tube (fig. 39). 10th tergite strongly sclerotized. Pygofer lobe dorsally with cluster of macrosetae and internally with large, strongly sclerotized pointed process, arising from dorsal rim of lobe (figs 39 & 40). Plates separate, posteriorly with irregularly arranged submarginal macrosetae (fig. 44). Valve triangular. Aedeagus symmetrical, gonopore apical, on ventral side. Connective with short stem articulating with socle; basal arms well separated (fig. 41). Apophyses of styles straight.

Cerus granarius (Naudé), **comb. nov.**, figs 35-45

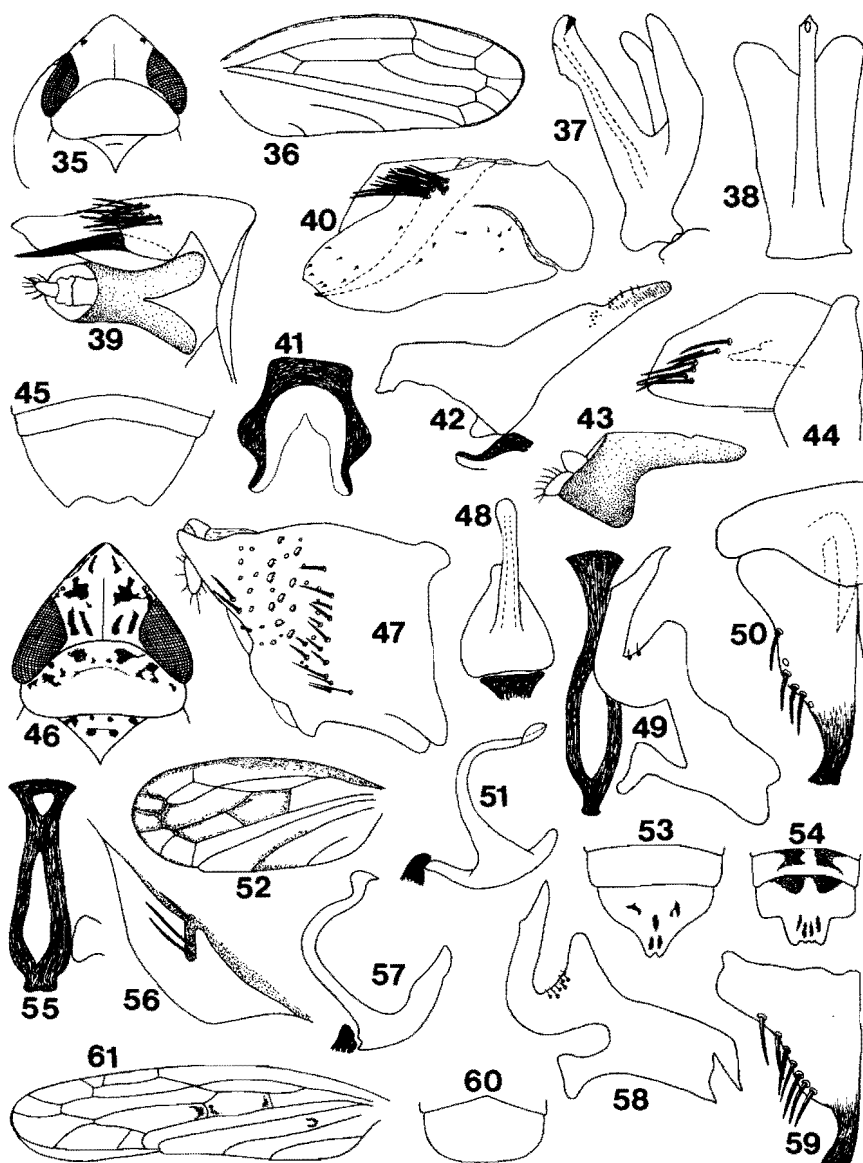
Deltocephalus granarius Naudé, 1926: 45

MALE. Length from apex of crown to tips of tegmina 3.68-4 mm. Colour patterns described by Naudé no longer discernible in any of type-specimens. Width of head across eyes 1.26-1.36 mm. Maximum width of pronotum 1.16-1.24 mm.

Posterior part of 10th tergite tubular (fig. 43), anterior part forked (fig. 39). Pygofer lobes fairly elongate and bluntly pointed behind; each bearing a cluster of about 15 macrosetae dorsally; pygofer process strong, slightly curved and directed posteriorly. Aedeagus with large socle and relatively straight laterally compressed shaft (figs 37 & 38). Styles as in fig. 42. Plates somewhat rounded behind, with 6-8 (not 2, as stated by Naudé) scattered macrosetae preapically.

FEMALE. Length 4 mm; width of head across eyes 1.38 mm; maximum width of pronotum 1.24 mm. 7th abdominal sternite extensive and with median lobe (fig. 45).

MATERIAL EXAMINED. Naudé's type-specimens are all still present in the collection, viz. a holotype ♂, allotype ♀ and 3 paratype ♂♂ (all collected at Ceres, C.P. by F. W. Pettey, iv. 1923); unfortunately their colours have faded almost completely. No other specimens of this species were available for study, but other Western Cape species of this genus, with very distinctive colour patterns on the body and tegmina, were examined.



PRAVISTYLUS gen. nov.

Type-species: *Deltocephalus eductus* Naudé

The structure of the male genitalia of this species clearly indicate that it cannot be included in the genus *Deltocephalus* and a new genus *Pravistylus* of the tribe Jassargini, is therefore proposed here.

Brachypterous or macropterous leafhoppers with the head slightly wider than the pronotum. Crown produced in front and rounded to face; frontal region with fine nodular sculpture, discal region smooth. Ocelli separated from adjacent eyes by distance about twice their diameter. Coronal suture long, distinct. Frontoclypeus narrow. Anteclypeus narrowing distally. Gena distinctly notched below eye. Ocellocular region at least $\frac{2}{3}$ width of gena below lorum.

Lateral margins of pronotum very short. Tegmina with two closed anteapical cells; appendix very narrow in macropterous forms, absent in brachypterous forms. Hind wings very reduced in brachypterous forms, normal in macropterous forms. Spinulation of fore tibiae $1 + 4$; hind femoral setal formula $2 + 2 + 1$.

Pygofer middorsally invaded for about $\frac{1}{3}$ its length by articular membrane of very short anal tube; tenth tergite short, tubular. Pygofer lobes with numerous macrosetae and sharply angled posterodorsally; hind margin in lateral view oblique and edges folded inwards and strengthened by marginal flanges; latter in sclerotic connection with one another immediately below anal tube, but ventrally separated by slit for protrusion of aedeagus. Plates elongate, triangular, with uniseriate macrosetae; posterior angle of each plate prolonged into long, flattened, dorsally curving, strongly sclerotized extension, which reaches up to hind margin of pygofer. Aedeagus symmetrical with large socle, dorsally curving shaft and flared, apical gonopore. Connective linear, with basal arms fused and stem articulating with aedeagus. Styles peculiar, with strong preapical angle, curved apophyses and long ventral arms (figs 49 & 58). Valve triangular.

Pravistylus eductus (Naudé), **comb. nov.**, figs 46–53

Deltocephalus eductus Naudé, 1926: 45–46

MALE. Length from apex of crown to tips of tegmina 2.32 mm, to apex of abdomen 2.58–2.68 mm. General body colour whitish, with variable brownish spots

Figs 35–61. South African Cicadellidae. 35–45. *Cerus granarius* (Naudé). 35–44. Holotype ♂. 35. Head and thorax, dorsal view. 36. Tegmen. 37 & 38. Aedeagus, lateral and ventral views. 39. Left pygofer lobe and anal tube, dorsal view. 40. Pygofer, lateral view. 41. Connective. 42. Left style, ventral view. 43. 10th tergite, lateral view. 44. Right plate and part of valve, ventral view. 45. Allotype ♀, hind margin of 7th abdominal sternite. 46–53. *Pravistylus eductus* (Naudé). 46–52. Holotype ♂. 46. Head and thorax, dorsal view. 47. Pygofer, lateral view. 48. Aedeagus, ventral view. 49. Connective and right style, ventral view. 50. Right plate, ventral view. 51. Aedeagus, lateral view. 52. Tegmen. 53. Allotype ♀, 7th abdominal sternite. 54–59. *P. exquadratus* (Naudé). 54. Holotype ♀, 7th abdominal sternite. 55–59. Male genitalia. 55. Connective. 56. Part of hind edge of pygofer lobe. 57. Aedeagus, lateral view. 58. Style. 59. Plate. 60–61. *Cedarotettix cogani* (Naudé). Holotype ♀. 60. 7th abdominal sternite. 61. Tegmen.

(fig. 46). Width of head across eyes 0.76 mm. Crown slightly longer than pronotum, with fuscous spots. Frontoclypeus with 7 dark-brown horizontal arcs. Maximum width of pronotum 0.72 mm; pronotum and scutellum also marked with brown. Tegmina light brown, veins whitish, some cells lined with brown (fig. 52).

Pygofer and genitalia as in figs 47-51. Plates gradually narrowing behind, with 6 or 7 uniseriate macrosetae (fig. 50). Aedeagus arising from middle of socle (figs 48 & 51).

FEMALE. Macropterous or brachypterous. Macropterous form 3.2 mm long from apex of crown to tips of tegmina, brachypterous forms 2.2-2.68 mm to tips of tegmina and 2.74-3.24 mm to tip of abdomen. Hind margin of 7th abdominal sternite triangularly produced, with notch at apex (fig. 53).

MATERIAL EXAMINED. Naudé states that he described this species from many brachypterous males and females and 4 macropterous females, but at present only the brachypterous holotype ♂, allotype ♀ (macropterous), 1 paratype ♂ and 6 paratype ♀♀ (all brachypterous) are present in the collection. They were all collected by J. C. Faure at Petrusburg, O.F.S., April, 1918. Specimens from Pretoria and Durban were also studied and several other species of this genus are present in South Africa, including the species described below.

Pravistylus exquadratus (Naudé), **comb. nov.**, figs 54-59

Deltocephalus exquadratus Naudé, 1929: 12

FEMALE. Length from apex of crown to tips of tegmina 3-3.48 mm in macropterous forms, 3 mm in brachypterous forms. General body colour and colour pattern fairly variable, usually somewhat like that of *P. eductus*. Width of head across eyes 0.88-0.94 mm. Maximum width of pronotum 0.8-0.85 mm. 7th abdominal sternite posteriorly with sinuate extension (fig. 54).

MATERIAL EXAMINED. This species is not mentioned in Naudé's (1926) monograph but is described in an abstract of his doctor's dissertation (Naudé 1929). At present his collection contains a holotype ♀ and 2 paratype ♀♀ (all collected by J. C. Faure at Bloemfontein, 14.iv.1918). Many additional ♀♀ (some brachypterous) and ♂♂ from Bronkhorstspuit, Bethlehem and Golden Gate, O.F.S. were however also available for study and the genitalia of a macropterous male collected by R. Kluge at Bethlehem, Jan. 1971, are shown in figs 55-59.

MALE. Length from apex of crown to tips of tegmina 2.88-3.16 mm. Width of head across eyes 0.8-0.88 mm; maximum width of pronotum 0.72-0.8 mm. Pygofer generally as in *eductus* but hind margin of each pygofer lobe with peculiar narrow, seta-bearing sclerotization (fig. 56). Plates rather abruptly narrowed behind (fig. 59). Aedeagus with shaft arising from ventral part of socle (fig. 57). Styles with apophyses sharply bent, almost forming right angle with basal part of style (fig. 58). Connective as in fig. 55.

The shape of the 7th abdominal sternite in the female and the structure of the aedeagus, connective, styles, plates and the peculiarity of the hind margin of the pygofer lobe, distinguish this species from *eductus*.

CEDAROTETTIX gen nov.

Type-species: *Deltocephalus cogani* var. *incisus* Naudé

This species does not belong to the genus *Deltocephalus*. Its external characters agrees closely with those of the genera *Psammotettix* Haupt and *Jubrinia* Linnavuori, but its peculiar male genitalia indicate that it is quite distinct from these genera. A new genus of the Jassargini, namely *Cedarotettix*, is therefore proposed here.

Head wider than pronotum. Crown medially longer than next eyes, anteriorly rounded to face; discal region smooth and slightly sunken, frontal region granular. Ocellus separated from adjacent eye by distance equal to its diameter. Frontoclypeus wedge-shaped, with distinct horizontal arcs; anteclypeus narrowing distally. Gena notched below eye. Ocellocular region about same width as gena below lorum.

Lateral margins of pronotum short. Tegmina with three closed anteapical cells and narrow appendix (fig. 61). Spinulation of fore tibiae 1 + 4; hind femoral setal formula 2 + 2 + 1.

Pygofer very deeply incised middorsally by articular membrane of anal tube. 10th tergite well sclerotized. Pygofer lobes long, posteriorly with many macrosetae and dorsolaterally with process. Plates separate, edges denticulate and with uniseriate macrosetae. Valve triangular. Aedeagus symmetrical, socle dorsally with pair of posteriorly directed processes. Connective with very short stem articulating with aedeagus; basal arms fused. Apophyses of styles strongly sclerotized and denticulate along inner edges.

Cedarotettix cogani (Naudé), **comb. nov.**, figs 60-67

Deltocephalus cogani var. *incisus* Naudé, 1926: 47

MALE. Length from apex of crown to tips of tegmina 3.52-4.03 mm; width of head across eyes 0.96-1.04 mm; maximum width of pronotum 0.84-0.94 mm. Ground colour whitish, with brownish marks on head, thorax and tegmina; general habitus very similar to that of *Jubrinia* (vide Theron 1971).

Each pygofer lobe with large number of long macrosetae (fig. 62); hind margin curving inwards and dorsally bearing a strongly sclerotized, curved, pointed process (fig. 63). Shaft of aedeagus long, tubular and directed posteriorly, with gonopore apically on ventral side (figs 64 & 67). Socle dorsally with a pair of large, peculiarly-shaped appendages. Apophyses of styles elongate, almost reaching hind margin of plates; heavily sclerotized and with small teeth along medial edge (fig. 66). Outer margin of plates concave and bearing 4-5 uniseriate macrosetae (fig. 65); inner and outer margins of plates posteriorly with denticles.

FEMALE. Length 4.8 mm; width of head across eyes 1.18 mm; maximum width of pronotum 1.06 mm. Head more elongate than in male. 7th abdominal sternite rounded behind (fig. 60).

MATERIAL EXAMINED. Naudé described this species from 2 ♀♀ and 2 ♂♂ collected by E. S. Cogan at Cedara (Natal) on 2.iii.1917. The holotype ♀, the allotype ♂ and a paratype ♂ (parasitized) are now present in the collection. Two additional males, collected at the Hendrik Verwoerd Dam (O.F.S.) and Pretoriuskop, Kruger National Park, were also available for study. The single ♀, on which Naudé based his var. *intiger* of this species, is no longer present in the collection. Other species of this genus are also present in South Africa.

VILARGUS gen. nov.

Type-species: *Deltocephalus pumilicans* Naudé

This species cannot be included in the genus *Deltocephalus* and although it resembles *Psammotettix* in some respects, the peculiarities of the male genitalia excludes it from any known genus of the tribe Jassargini. The new genus *Vilargus* is therefore proposed here.

Head wider than pronotum. Crown longer medially than next eyes; anteriorly rounded to face; discal region smooth, frontal region and face granular. Frontoclypeus with horizontal arcs, anteclypeus narrowing distally. Gena below lorum about as wide as ocellular region. Ocellus separated from eye by distance twice diameter of ocellus.

Lateral margins of pronotum very short, non-carinate. Tegmen without appendix; venation rather indistinct; 3 closed anteapical cells and 4 apical cells. Hind wings diminutive. Spinulation of fore tibiae 1 + 4; hind femoral setal formula 2 + 2 + 1.

Pygofer lobes setose; inner edges strongly ridged and flanking and positioning aedeagus; posterodorsal angle acute. Anal tube very small and pygofer therefore only shallowly excised middorsally; 10th tergite weakly sclerotized. Plates short and with few uniseriate macrosetae along convex outer margin. Valve large, triangular.

Socle prolonged posteriorly into long, curved, gutter-shaped, slightly asymmetrical appendage which articulates ventrally with the connective. Connective linear, with stem broad and sharply curved upwards for articulation with socle (fig. 70). Styles with conspicuous preapical angles and large, divergent toothed apophyses, which reach hind margins of plates (fig. 74).

Vilargus pumilicans (Naudé), **comb. nov.**, figs 68–74

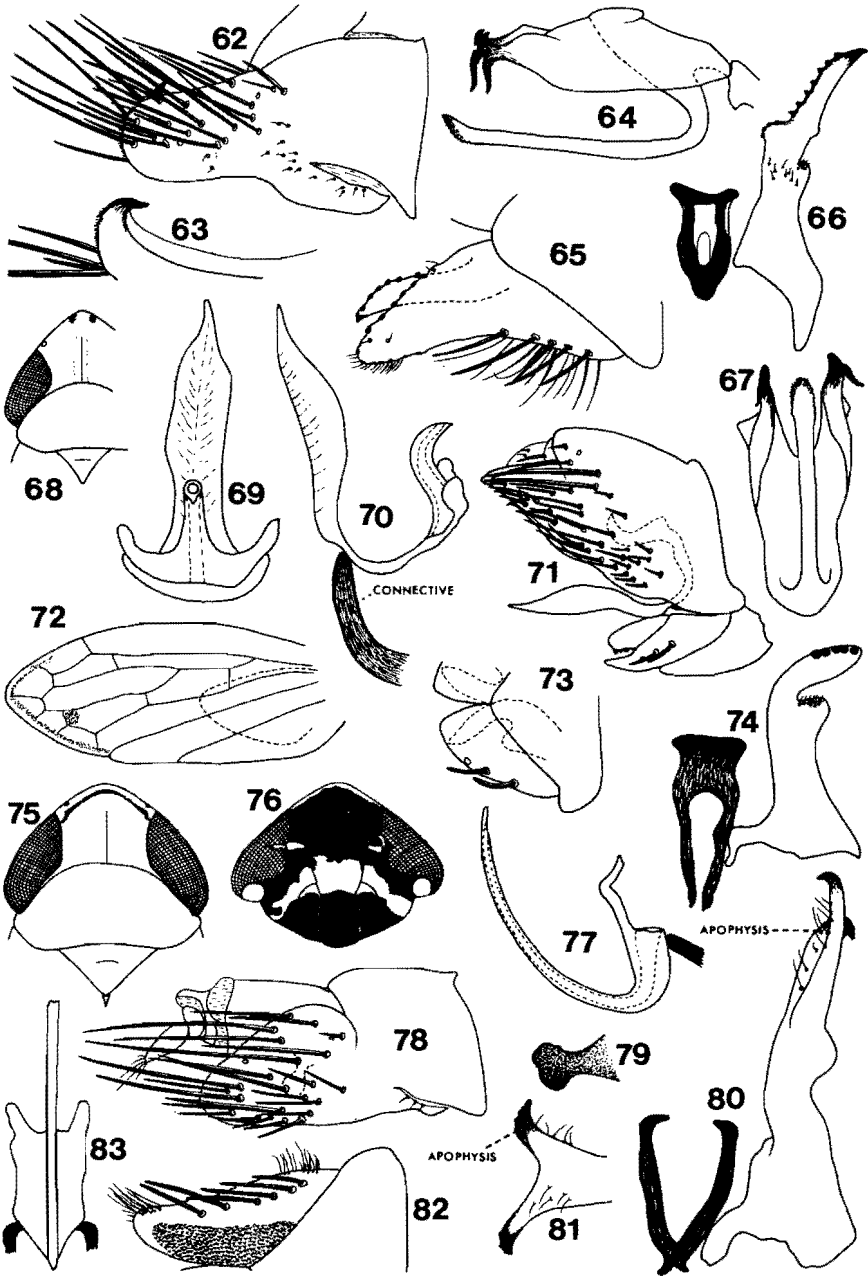
Deltocephalus pumilicans Naudé, 1926: 49

MALE. Macropterous or slightly brachypterous. Length from apex of crown to tips of tegmina 2–2.4 mm. Colour almost uniformly greyish; tegmina with few smoky areas at apices. Width of head across eyes 0.7–0.84 mm. Crown sometimes yellowish, with two small fuscous patches at apex; medially about 1.6 times as long as next eyes (fig. 68). About 7 horizontal arcs visible on frontoclypeus.

Maximum width of pronotum 0.62–0.76 mm. Pygofer lobes with numerous macrosetae (fig. 71). Plates with row of 3–5 macrosetae (fig. 73). Shaft of aedeagus tubular, small, curving dorsally (figs 69 & 70).

FEMALE. Unknown.

Figs 62–83. South African Cicadellidae. 62–67. *Cedarotettix cogani* (Naudé). Allotype ♂. 62. Pygofer, lateral view. 63. Hind margin of right pygofer lobe, dorsal view. 64. Aedeagus, lateral view. 65. Left plate and part of valve, ventral view. 66. Right style and connective, ventral view. 67. Aedeagus, ventral view. 68–74. *Vilargus pumilicans* (Naudé). Holotype ♂. 68. Head and thorax, dorsal view. 69 & 70. Aedeagus, dorsal and lateral views. 71. Pygofer, lateral view. 72. Tegmen. 73. Left plate and part of valve. 74. Right style and connective, ventral view. 75–83. *Vecaulis attenuatus* (Naudé), male. 75. Head and thorax, dorsal view. 76. Face. 77. Aedeagus, lateral view. 78. Pygofer, lateral view. 79. Internal process of pygofer. 80. Right style and connective, ventral view. 81. Apex of style, lateral view. 82. Right plate and part of valve, ventral view. 83. Aedeagus, ventral view.



MATERIAL EXAMINED. Naudé described this species from 5 ♂♂ reportedly collected at Viljoen's Pass near Elgin, C.P. on 12.i.1923 by F. W. Pettey. The holotype and 3 paratypes have remained in the collection, but as these specimens were preserved in alcohol (according to Naudé) their colours are now almost completely faded. In spite of intensive collecting by the present author at the type-locality and in other parts of the Western Cape, no specimens of *V. pumilicans* were found, but a number of males were collected at Viljoenskroon and Kroonstad, O.F.S. This probably indicates that Pettey's locality labels are wrong.

VECAULIS gen. nov.

Type-species: *Deltocephalus attenuatus* Naudé

This species does not belong in the genus *Deltocephalus*. Its peculiar connective (without stem) resembles that of *Samuraba* Linnavuori, *Chelidinus* Emelyanov, *Yanocephalus* Ishihara and "*Deltocephalus*" *breviatus* Cogan (*vide* Theron 1970), but it is apparently not closely related to these genera (with the exception of *Samuraba*). A new genus of the tribe Jassargini, *viz.* *Vecaulis*, is therefore proposed here.

Head slightly wider than pronotum. Crown medially longer than next eyes, anteriorly fairly sharply angled with face; discal region glabrous, frontal region with fine nodular sculpture. Ocellus separated from adjacent eye by distance twice its diameter. Frontoclypeus fairly narrowly wedge-shaped; anteclypeus with slightly convex outer edges. Ocellular region slightly wider than gena below lorum.

Lateral margins of pronotum short. Tegmina with 3 closed anteapical cells and narrow appendix (fig. 84). Hind wing with 4 apical cells. Spinulation of fore tibia 1 + 4, or inner row with 3 additional weaker setae so that spinulation appears to be 4 + 4; hind femoral setal formula 2 + 2 + 1.

Pygofer of male middorsally incised for about half its length by articular membrane of anal tube; 10th tergite large, well sclerotized. Pygofer lobes triangular in lateral view, setose (fig. 78); internally with heavily sclerotized process. Plates triangular, with more or less uniseriate macrosetae (fig. 82). Valve triangular. Aedeagus symmetrical, tubular, with gonopore subapically on dorsal side; shaft arising from ventral part of socle (figs 77 & 83). Connective without stem; arms anteriorly fused with one another, but diverging posteriorly and articulating individually with socle (fig. 80). Styles elongate, peculiar; terminally twisted so that the slightly curved apophysis points dorsally and the nearly similar preapical process, ventrally (fig. 81).

Vecaulis attenuatus (Naudé), **comb. nov.**, figs 75–85

Deltocephalus attenuatus Naudé, 1926: 49–50

FEMALE. Tegmina slightly shorter than abdomen, length from apex of crown to tips of tegmina 3.8–4.16 mm, to tip of abdomen 4–4.32 mm. Ground colour light brown. Apex of crown edged by narrow white band in which the reddish ocelli are located. This band posteriorly bordered by narrow subapical fuscous band and anteroventrally by upper black or fuscous part of face, in which few horizontal arcs are sometimes visible; dark band also extends from here to pleuron. Lower part of face also dark, with distinctive light brown area intervening between this and upper part. Tegmina light brown, with small fuscous areas in apical cells. Width of head across eyes

1.18–1.26 mm; maximum width of pronotum 1.08–1.18 mm. 7th abdominal sternite with median lobe (fig. 85).

MATERIAL EXAMINED. The single ♀, from which Naudé described this species, is still present in the collection but is in very poor condition (it was mounted from alcohol) and its colours are almost completely faded. Naudé states that this specimen was collected by F. W. Pettey at Viljoen's Pass, C.P. (12.i.1923), but the label on the specimen records Ceres (iv.1923) as the type-locality. A considerable number of additional specimens, collected at Ceres, Stellenbosch (on Cyperaceae), Rawsonville, Piketberg and in the Sederberge, could with certainty be associated with this species and a ♂ (collected by J. G. Theron at Lindeshof, Ceres. 25.xi.1971) is illustrated here (figs 75–83).

MALE. Macropterous; length from apex of crown to tips of tegmina 3.48–4 mm. Width of head across eyes 1.06–1.2 mm. Maximum width of pronotum 1.02–1.1 mm. Each pygofer lobe laterally with about 25 macrosetae and internally with heavily sclerotized capitate process (fig. 79). Plates with 4–7 macrosetae, which are sometimes not arranged in straight row; ventromedially with dark area densely covered with spicules. Shaft of aedeagus thin, tubular.

The genus *Vecaulis* is obviously related to *Samuraba* but the differences in the sculpturing and shape of the crown and head, the venation of the tegmina and especially the radical differences in the structure of the styles and plates, indicate that they are not congeneric.

MEGAULON gen. nov.

Type-species: *Deltocephalus chlorellus* Naudé

The male genitalia of this species indicate that it is not a *Deltocephalus*, but belongs to a new genus of the tribe Euscelini; the genus *Megaulon* is proposed here.

Brachypterous leafhoppers with head slightly wider than pronotum. Crown produced in front, about $1\frac{1}{2}$ times as long medially as next eyes, bluntly rounded to face; frontal region with fine nodular sculpture; discal region glabrous. Ocelli small, located some distance from anterior margin of crown and separated from adjacent eyes by distance $3\frac{1}{2}$ times diameter of ocellus. Frontoclypeus with many horizontal arcs; lateral margins of anteclypeus slightly convex; width of gena below lorum about $\frac{1}{3}$ width of ocellular region.

Lateral margins of pronotum short, non-carinate. Tegmina short, with venation reduced and indistinct, so that most cells are not differentiated; no appendix (fig. 93). Hind wings very reduced. Spinulation of fore tibiae 1 + 4; hind femoral setal formula 2 + 2 + 1.

Anal tube with 10th tergite very large, strongly sclerotized and tubular behind; pygofer therefore deeply and broadly incised middorsally (fig. 90). Anterior rim of pygofer dorsally with a pair of rounded apodemes extending considerable distance into segment 8. Pygofer lobes narrow, elongate, fairly truncate behind and setose dorsolaterally (fig. 87). Plates triangular, with submarginal macrosetae, which are more or less uniseriate (fig. 92). Aedeagus symmetrical; shaft with apical processes and subapical gonopore on ventral side; socle with dorsal appendage (figs 88 & 89). Connective V-shaped (fig. 91). Styles narrow, with small preapical angles and porrect apophyses. Valve bluntly triangular.

Megaulon is obviously closely allied to *Caffrolix* Linnavuori, but its pygofer lobes and especially aedeagus, are completely different; the venation of the tegmina, size of the hind wings and expanse of the dorsal apodemes of the pygofer, also differ radically from those of *Caffrolix conicus* (Naudé).

Megaulon chlorellus (Naudé), **comb. nov.**, figs 86–94

Deltocephalus chlorellus Naudé, 1926: 51–52

FEMALE. Length from apex of crown to tips of tegmina 2.52–2.64 mm, to tip of abdomen 2.84–3.24 mm. Ground colour greenish-yellow; brown markings on various parts of body. Width of head across eyes 1.06–1.1 mm. Frontoclypeus with about 12 brown horizontal arcs, of which the dorsal loops extend on to the crown (fig. 86). Crown and pronotum sometimes with few small brown marks. Maximum width of pronotum 1–1.04 mm. Tegmina greenish-yellow, but with hyaline areas in costal, apical and claval regions; some veins fuscous, but venation generally indistinct. 7th abdominal sternite with its hind edge hyaline and medially notched. (fig. 94).

MATERIAL EXAMINED. The single female (collected by F. W. Pettey at Viljoen's Pass, C.P., 12.i.1923), on which Naudé based this species, is still present in the collection but it has been mounted from alcohol and is therefore shrunken and discoloured. Nevertheless, a number of specimens from Villiersdorp, Rawsonville, Franschhoek and Stanford could definitely be associated with it and a male collected by J. G. Theron at Villiersdorp (close to the type-locality) on 6.i.1971 is illustrated in figs 86–93.

MALE. Length from apex of crown to tips of tegmina 2.44–2.6 mm, to tip of abdomen 2.68 mm. Width of head across eyes 1–1.08 mm; maximum width of pronotum 0.9–1 mm. Pygofer lobes dorsally with macrosetae and small dark process; posteriorly with short spines. Shaft of aedeagus terminally with two pairs of hooked processes and laterally with flanges. Dorsal process of socle pointed and about equal in length to shaft. Apophysis of style finely denticulate and with small ventral tooth apically. Plates with 6 or 7 uniseriate macrosetae and some smaller setae, but latter often also fairly large; uniseriate condition of plates then not very clear.

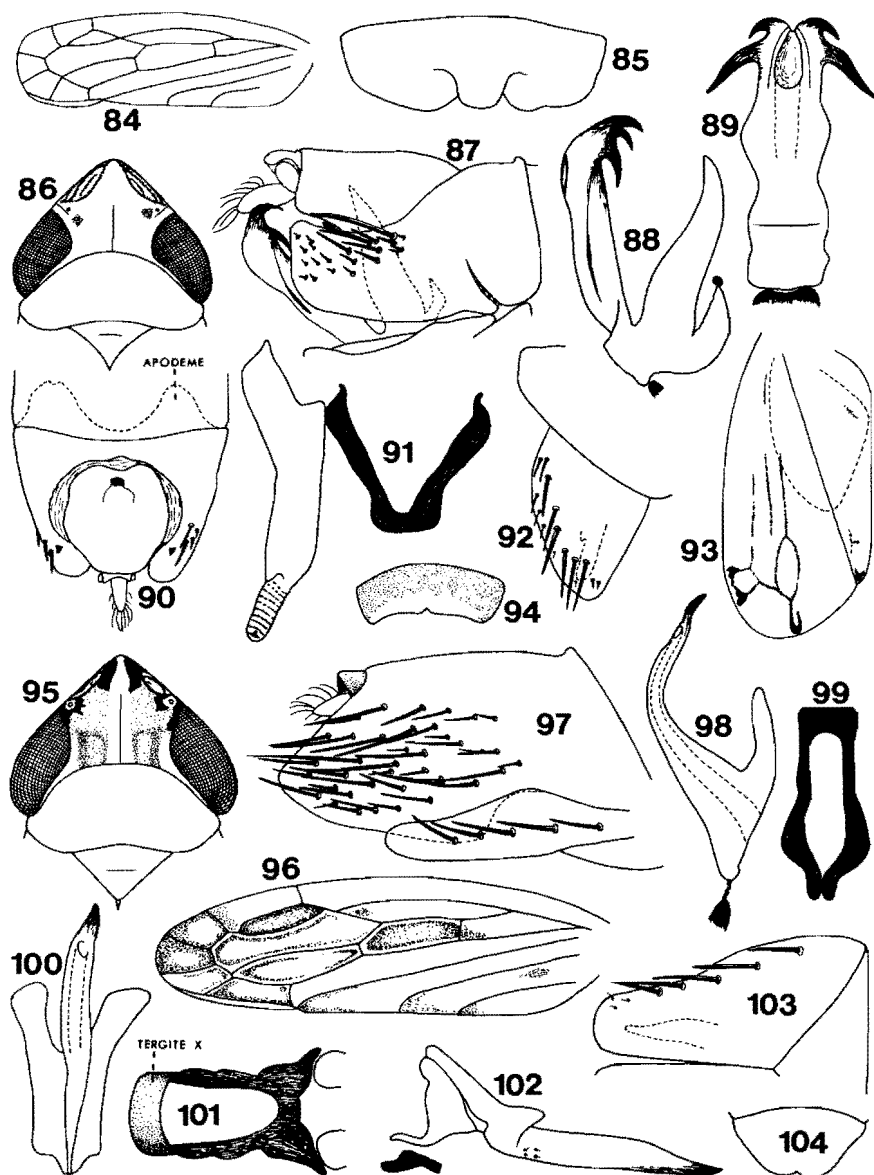
Various other species of *Megaulon* are also present in the Western Cape region. *Chlorellus* itself shows considerable intraspecific variation in the development of the small dorsal process of the pygofer lobes and the structure of the aedeagus (e.g. the width of the flanges of the shaft and the length and curvature of the apical processes).

***ELGINUS* gen. nov.**

Type-species: *Deltocephalus saltus* Naudé

This species is a typical member of the tribe Jassargini and a new genus for it, viz. *Elginus*, is proposed here.

Head wider than pronotum. Crown produced in front, 1.6 times as long medially as next eyes; fairly sharply angled with face; frontal region with fine nodular sculpture, but discal region smooth and slightly sunken, with slightly raised area on each side of coronal suture. Ocelli on anterior margin of crown; each ocellus separated from adjacent eye by 2–3 times its diameter. Frontoclypeus with horizontal arcs. Anteclypeus narrowing apically, not extending beyond genae; width of gena below lorum about equal to width of ocellocular region.



Figs 84–104. South African Cicadellidae. 84–85. *Vecaulis attenuatus* (Naudé). 84. Male, tegmen. 85. Holotype ♀, 7th abdominal sternite. 86–94. *Megaulon chlorellus* (Naudé). 86–93. Male. 86. Head and thorax, dorsal view. 87. Pygofer, lateral view. 88 & 89. Aedeagus, lateral and ventral views. 90. Pygofer, dorsal view. 91. Right style and connective, ventral view. 93. Tegmen. 94. ♀, 7th abdominal sternite. 95–104. *Elginus saltus* (Naudé). 95. Head and thorax, dorsal view. 96. Tegmen. 97–103. Allotype ♂. 97. Pygofer, lateral view. 98. Aedeagus, lateral view (right). 99. Connective. 100. Aedeagus, ventral view. 101. 10th tergite with internal framework articulating with socle. 102. Left style, ventral view. 103. Right plate, ventral view. 104. ♀, 7th abdominal sternite.

Anal tube short, but 10th tergite well sclerotized and internally produced into a frame-work articulating with dorsal arms of socle (fig. 101). Pygofer large and very extensive middorsally, as excision of anal tube is small. Pygofer lobes without processes, laterally setose and opposable, so that in repose the aperture between them is tightly closed; closure is effected by plates, which overlap ventral flap of pygofer lobes. Plates large elongate, bluntly rounded behind and with uniseriate macrosetae; contiguous or nearly so for most of their length (fig. 103). Aedeagus with shaft usually somewhat twisted and more or less asymmetrical; gonopore subapical, on ventral side of shaft; socle ventrally loosely connected to connective (no actual articulation), but dorsally closely articulated to 10th tergite. Connective linear, with short stem (fig. 99). Styles with distinct preapical angles and very long apophyses, which however do not reach hind margins of plates.

Elginus saltus (Naudé), **comb. nov.**, figs 95–104

Deltocephalus saltus Naudé, 1926: 52–53

MALE. Length from apex of crown to tips of tegmina 3.28–3.76 mm; width of head across eyes 1–1.1 mm; width of pronotum 0.82–0.96 mm. Ground colour dull green, with variable brown marks on crown, pronotum and scutellum. Crown always with median pale band, which is bordered at apex of crown by pair of characteristic small angular black areas (fig. 95). Frontoclypeus brown, with 7 or 8 horizontal arcs; anteclypeus and genae light green. Tegmina greenish, with variable smoky areas.

Pygofer lobes pointed behind, laterally with many macrosetae (fig. 97). Shaft of aedeagus rather short, slender, curving anteriorly and with its apex bent slightly to the right side (figs 98 & 100). Apophyses of styles long, ensiform (fig. 102). Plates with 5–6 macrosetae.

FEMALE. Length from apex of crown to tips of tegmina 3.24–3.92 mm; tegmina somewhat variable in length, in some specimens barely covering abdomen. Width of head across eyes 1.04–1.14 mm; maximum width of pronotum 0.84–0.98 mm. 7th abdominal sternite as in fig. 104.

MATERIAL EXAMINED. Naudé described this species from 1 ♀ (holotype) and 2 ♂♂ (allotype and severely parasitized paratype), collected at Viljoen's Pass, C.P. by F. W. Petter, 12.i.1923. These specimens are still present in the collection, but are in poor condition as they were mounted from alcohol. Many additional specimens from Stellenbosch, Franschhoek, Viljoen's Pass, Ceres, Hermon, Kleinmond, Wolseley, Rawsonville and the Sederberge were however available for study. Various other species of *Elginus* are also present in South Africa. *E. saltus* is not at all related to the Palaearctic *Deltocephalus maculiceps* Boheman, as Naudé suggested.

***PROEKES* gen. nov.**

Type-species: *Deltocephalus cephalus* Naudé

This species is not a *Deltocephalus* and a new genus of the Euscelini, viz. *Proekes*, with the following characteristics, is therefore proposed here.

Head wider than pronotum. Crown medially longer than next eyes, anteriorly fairly sharply angled with face (figs 1 & 2); discal region smooth, frontal region (and

face) with fine nodular sculpture. Ocellus separated from adjacent eye by distance about twice its diameter. Frontoclypeus wedge-shaped, broad, abruptly narrowed at junction with anteclypeus. Anteclypeus slightly swollen and narrowing ventrally. Gena below lorum much narrower than ocellocular region.

Lateral margins of pronotum short, non-carinate. Tegmina with 3 antepical cells and no appendix (fig. 3). Female brachypterous. Hind wings reduced, narrow. Spinulation of fore tibiae 1 + 4; hind femoral setal formula 2 + 2 + 1.

Anal tube of male as long as pygofer, with large, tubular, well sclerotized 10th tergite arising almost from base of pygofer, so that latter is deeply incised middorsally (fig. 4). Pygofer lobes not setose, relatively small, triangular; posterodorsally with heavily sclerotized pointed process; membranous fold rectangularly bent. Plates triangular, with irregularly arranged macrosetae (fig. 8). Valve narrow, triangular. Aedeagus symmetrical, with short, laterally flattened shaft, apical gonopore and number of teeth; shaft arising from dorsal part of socle (figs 5 & 6). Connective with short, broad stem and strongly divergent arms (fig. 9). Styles slender, elongate, with divergent apophyses extending posteriorly for about half length of plates (fig. 7). Female brachypterous, with elongate ovipositor.

Proekes cephalus (Naudé), **comb. nov.**, figs 1-10

Deltocephalus cephalus Naudé, 1926: 53

Aconura ceresensis Naudé, 1926: 54, **syn. nov.**

MALE. Length from apex of crown to tips of tegmina 3.8-4.32 mm; width of head across eyes 3 mm; maximum width of pronotum 2.6 mm. Ground colour brownish-grey, with dark brown markings on head and pronotum; frontoclypeus usually with about 12 distinct horizontal arcs. Tegmina greyish-white, with all veins and some other areas fuscous. Pygofer processes straight and directed posteriorly; pygofer lobes dorsally with 2 short stout setae on each side. Plates with about 20 scattered macrosetae. Shaft of aedeagus laterally compressed, with large apical, slit-like gonopore, which is flanked by 2 pairs of teeth; additional pairs of teeth present ventrally on stem of shaft, as well as dorsally near base of shaft; development of all teeth show some variation among individuals. Styles with strongly curved apophyses.

FEMALE. Brachypterous; length from apex of crown to tips of tegmina 3.88-4 mm, to tip of ovipositor 4.9-5.1 mm. Width of head across eyes 1.5 mm; maximum width of pronotum 1.3 mm. 7th abdominal sternite as in fig. 10. Pygofer tapering; ovipositor strong, very long, extending considerably beyond tips of tegmina.

MATERIAL EXAMINED. Naudé described this species from a unique male from Viljoen's Pass, C.P. (collected by F. W. Pettey, 12.i.1923). This specimen is still in the collection, but is much discoloured. Many specimens from Ceres, Viljoen's Pass, Kleinmond and Pearly Beach were however available for study. It was also found that the single specimen, on which Naudé based the species *Aconura ceresensis* (collected by F. W. Pettey at Ceres, April 1923), is in fact a female of *P. cephalus*.

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